



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,858	02/01/2001	Samuel Talmadge	12-1049	8421

7590

05/17/2004

Patent Counsel  
TRW Inc.  
Law Department, E2/6051  
One Space Park  
Redondo Beach, CA 90278

EXAMINER

DALENCOURT, YVES

ART UNIT	PAPER NUMBER
----------	--------------

2157

DATE MAILED: 05/17/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

3

## Office Action Summary

Application No.

09/775,858

Applicant(s)

TALMADGE ET AL.55

Examiner

Yves Dalencourt

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 7-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 and 23 is/are allowed.
- 6) ☐ Claim(s) 1-3,5 and 7-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This office action is responsive to communication filed on 03/01/2004.

#### ***Response to Amendment***

The examiner has acknowledged the amended specification, the amended drawings, the amended claims 1, 5, 10 – 12, the cancellation of claims 4 and 6, and the submission of claim 23.

#### ***Response to Arguments***

Applicant's arguments filed on 03/01/04 have been fully considered but they are not persuasive.

Regarding Applicant's argument (page 10, second paragraph), the examiner contends that Sterzer does teach a vehicle 102 has fixed to its rear end, a license plate 100(100, fig. 6; col. 9, lines 52 – 55; claimed a tag that includes means for adhering to a component of the vehicle).

Regarding Applicant's argument (paragraph bridging pages 10 and 11), the examiner maintains that Lovoi does teach an energy holding tag 100 (col. 2, lines 51 – 51 – 56), which has extremely low power (col. 3, lines 37 – 39; claimed a micropower IC), absorbs, and holds energy from a power signal over a long time period, and responds by transmitting a reply signal over a short a shorter time period (col. 3, lines 52 – 57; claimed a low duty cycle integrated circuit).

In response to Applicant's arguments (page 11, lines 6 - 10), the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination

Art Unit: 2157

of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975).

However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). In this case, Sterzer teaches as an alternative to have a separate battery that may be maintained internal to the tag (see col. 6, lines 42 – 43), and Lovoi further teaches a low duty cycle micropower monolithic microwave integrated circuit for the purpose of providing a tag which is less expensive to fabricate and provides less interference with other electronic devices that are affected by RF signals (see col. 3, lines 36 – 40).

It has been held that the test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art. In re Bozek, 163 USPQ 545 (CCPA 1969).

In view of such, the rejection is sustained and repeated as follow:

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 2, 12, and 16 – 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fred Sterzer (US 4,001,822; hereinafter Sterzer).

Regarding claim 1, Sterzer teaches a communication system (figure 5), which comprises an interrogator (110, figure 5; the claimed a probe), the interrogator transmitting a modulated radio frequency request signal (147, figure 5; col. 8, lines 62 – 67) and receiving a modulated radio frequency response signal in response thereto (149, figure 5; col. 9, lines 7 – 11); a vehicle spaced from the probe (102, figure 6; col. 9, lines 52 – 61); a tag displaying a registration of the vehicle (12, figure 1) and including transceiving circuitry (fig. 5) for receiving the modulated radio frequency request signal and transmitting the modulated radio frequency response signal corresponding thereto (col. 2, lines 43 – 53; paragraph bridging col. 10, line 53 through col. 11, line 3), the tag further comprising a low power battery for powering the transceiving circuitry (col. 6, lines 42 – 43), and the tag also including means for adhering to a component of the vehicle (100, fig. 6; col. 9, lines 52 – 55).

Regarding claim 2, Sterzer teaches a communication system, wherein the vehicle component is a vehicle license plate (100, figure 5; col. 8, lines 65 – 67).

Regarding claim 12, Sterzer teaches a communication system, wherein the transceiving circuitry is a non-linear element having a resonant antenna for generating and retransmitting harmonic energy (see figure 4; col. 4, lines 2 – 46).

Regarding claim 16, Sterzer teaches a communication system, wherein the interrogator (probe) comprises radio frequency and signal processing circuitry for generating the modulated radio frequency request signal and processing the modulated

Art Unit: 2157

radio frequency response signal (110, figure 5; col. 8, lines 29 – 44; paragraph bridging col. 8, line 62 through col. 9, line 41).

Regarding claim 17, Sterzer teaches a communication system, wherein the interrogator (probe) comprises an antenna for transmitting the modulated radio frequency request signal and receiving the modulated radio frequency response signal (128, figure 5; col. 8, lines 62 – 65).

Regarding claim 18, Sterzer teaches a communication system, wherein the interrogator (probe) is in police vehicle 172 (182, figure 6; col. 10, lines 26 – 45; the claimed mobile).

Regarding claim 19, Sterzer teaches a communication system, wherein the interrogator (probe) is stationary (col. 2, lines 28 - 35; col. 9, lines 59 - 63).

Regarding claim 20, Sterzer teaches a communication system, wherein the modulated RF response signal is modulated with data containing an identification of the vehicle (col. 10, lines 61 - 67).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 2157

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Fred Sterzer (US 4,001,822; hereinafter Sterzer) in view of Adcox et al ( US 6388579; hereinafter Adcox)

Regarding claim 3, Sterzer teaches a license tag or plate mounted on a vehicle, which generally requires a registration of the vehicle in order to obtain such tag, and including all the limitations on claim 1, but fails to specifically teach that the registration of the vehicle is a renewable state department of motor vehicle registration.

However, Adcox et al teaches, in the same field of endeavor, the idea of a vehicle registration being a renewable state department of motor vehicle registration ( col. 1, lines 21 – 44; col. 3, lines 33 – 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a vehicle registration, which is a renewable state department of motor vehicle registration in Sterzer's device as evidenced by Adcox et al because Sterzer suggests a tag displaying a registration of the vehicle and Adcox et al further teaches that such registration is a renewable state department of motor vehicle registration for the purpose of allowing local, state, and national governments to control licensing and operation of vehicles in order to promote public safety and obtain revenue.

Art Unit: 2157

Claims 5, and 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Fred Sterzer (US 4,001,822; hereinafter Sterzer) in view of Paul A. Lovoi (US 6,480,699; hereinafter Lovoi).

Regarding claims 5, and 7 – 9, Sterzer teaches all the limitations on claim 1, above, but fails to specifically teach a system, wherein the transceiving circuitry is a low duty cycle micropower monolithic microwave integrated circuitry (MMIC)(claim 5); wherein the low duty cycle micropower monolithic microwave integrated circuitry (MMIC) comprises a microprocessor (claim 7); wherein the low duty cycle micropower monolithic microwave integrated circuitry (MMIC) further comprises a real time clock (claim 8); wherein the low duty cycle micropower monolithic microwave integrated circuitry (MMIC) further comprises a memory device (claim 9).

However, Lovoi teaches, in the same field of endeavor, a stand-alone device for transmitting a wireless signal containing data from a memory or a sensor, wherein the transceiving circuitry is low duty cycle micropower monolithic microwave integrated circuitry (MMIC)(100, figure 1A; col. 2, lines 51 – 66; paragraph bridging col. 6, line 54 through col. 7, line 23; col. 3, lines 34 – 51; col. 8, lines 37 – 39; col. 12, lines 35 - 49); wherein the low duty cycle micropower monolithic microwave integrated circuitry (MMIC) comprises an access decoder (530, figure 5B; col. 14, lines 9 – 21; the claimed a microprocessor); wherein the low duty cycle micropower monolithic microwave integrated circuitry (MMIC) further comprises a real time clock (col. 18, lines 18 - 22); wherein the low duty cycle micropower monolithic microwave integrated circuit (MMIC)



Art Unit: 2157

further comprises a memory device (col.16, lines 29 - 34); for measuring an axial acceleration of the vehicle (col. 15, lines 35 – 40; col. 18, lines 35 - 40).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a low duty cycle micropower monolithic microwave integrated circuitry (MMIC) including all the limitations mentioned above in Sterzer's device as evidenced by Lovoi for the purpose of providing a tag which is less expensive to fabricate and provides less interference with other electronic devices that are affected by RF signals (see col. 3, lines 36 – 40).

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Fred Sterzer (US 4,001,822; hereinafter Sterzer) in view of applicant's admitted prior art (see specification paragraph bridging page 9, line 21 through page 10, line 4).

Regarding claims 10 and 11, Sterzer teaches all the limitations on claim 4, but fails to specifically teach a communication system, wherein the transceiving circuitry is digitally controlled integrated circuitry (claim 10); and wherein the transceiving circuitry is surface acoustic wave (SAW) coded delay line filter circuitry (claim 11).

However, applicant's admitted that having a transceiving circuitry, which is a digitally controlled integrated circuitry, and a surface acoustic wave (SAW) coded delay line filter circuitry is well known in the art of passive smart tag (see specification, paragraph bridging page 9, line 21 through page 10, line 4).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a transceiving circuitry, which is a digitally controlled integrated circuitry, and a surface acoustic wave (SAW) coded delay line filter circuitry

Art Unit: 2157

in Sterzer's device as evidenced by applicant's admitted prior art for the purpose of providing a less complex and thus more cost-effective configuration.

Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Fred Sterzer (US 4,001,822; hereinafter Sterzer) in view of Sol Boles (US 5,506,584; hereinafter Boles).

Regarding claims 13 and 21, Sterzer teaches all the limitations on claim 1, but fails to specifically teach a communication system, wherein the tag comprises an omni-directional antenna for receiving the modulated radio frequency request signal and transmitting the modulated radio frequency response signal (claim 13); and wherein the modulated RF response signal is modulated with data for determining a location, a speed and a direction of the vehicle (claim 21).

Sterzer teaches an antenna 36 in the plate 100 which is arranged to form a highly directional radiation or response pattern (col. 9, lines 55 – 57)

However, Boles teaches, in the same field of endeavor, a radar sensor/processor for intelligent vehicle highway systems, wherein the transponder comprises an omni-directional antenna for receiving the modulated radio frequency request signal and transmitting the modulated radio frequency response signal (62, figure 2; col. 6, lines 19 – 23); and wherein the modulated RF response signal is modulated with data for determining a location, a speed and a direction of the vehicle (col. 2, lines 11 – 16 and lines 48 – 63).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a transponder comprises an omni-directional antenna

for receiving the modulated radio frequency request signal and transmitting the modulated radio frequency response signal (62, figure 2; col. 6, lines 19 – 23); and wherein the modulated RF response signal is modulated with data for determining a location, a speed and a direction of the vehicle in Sterzer's device as evidenced by Boles because Sterzer suggests an antenna 36 in the plate 100 which is arranged to form a highly directional radiation or response pattern and transmits vehicle identification data back to the interrogator and Boles further teaches a transponder comprising an omnidirectional antenna and transmits a modulated radio frequency response signal containing speed and location of the vehicle for the purpose of providing an intelligent vehicle identification system with a transponder that can receive from and transmit in virtually all directions.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Fred Sterzer (US 4,001,822; hereinafter Sterzer) in view of David S. Breed ( US 2001/0002451A1).

Regarding claims 14 and 15, Sterzer teaches all the limitations on claim 1, but fails to specifically teach a tag, which further comprises a sensor for measuring an axial acceleration of the vehicle (claim 14); and wherein the sensor is a micro electro mechanical system (MEMS) accelerometer (claim 15).

However, Breed teaches, in an art related field of RFID technology, a method and apparatus for controlling a vehicular component, which comprises a tag which further comprises a sensor for measuring an axial acceleration of the vehicle; and wherein the sensor is a micro electro mechanical system (MEMS) accelerometer

Art Unit: 2157

(paragraph bridging page 3, line 52 through page 4, line 23; page 3, paragraphs 0191 and 0192).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a tag which further comprises a sensor for measuring an axial acceleration of the vehicle; and wherein the sensor is a micro electro mechanical system (MEMS) accelerometer in Sterzer's device as evidenced by Breed because sterzer suggests using a MEMS sensor embedded in a tag for measuring acceleration of an object and Breed further teaches a micro electro mechanical system embedded in a tag for measuring an axial acceleration of the vehicle for the purpose of controlling a component of the vehicle in consideration of the diagnosed state or condition of the vehicle, and maintaining the stability of the vehicle.

### ***Allowable Subject Matter***

Claims 22 and 23 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: As specifically claimed, the art of record fail to teach, among other limitations, in combination, a communication system which comprises a first probe located on the first vehicle and a second probe located on the first vehicle; a second vehicle spaced from the first vehicle; a tag attached to the second vehicle, the tag displaying a registration of the second vehicle, receiving the first modulated radio frequency request signal and the second modulated radio frequency request signal, transmitting the first modulated radio frequency response signal in response to the first modulated radio frequency request

signal, and transmitting the second modulated radio frequency response signal in response to the second modulated radio frequency request signal, the first and second modulated radio frequency response signals each having a transmission delay; and a processor unit connected to the first and the second probe, the processor unit determining a location of the first vehicle relative to the second vehicle using the transmission delay of each of the first and second radio frequency modulated response signals.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### Contact Information

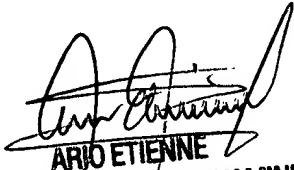
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yves Dalencourt whose telephone number is (703) 308-8547. The examiner can normally be reached on M-TH 7:30AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703) 308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yves Dalencourt  
Y.D.  
May 10, 2004

  
ARIO ETIENNE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100